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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

March 14, 1996

NORTEL

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW - Room 222
Washington, D.C. 20554

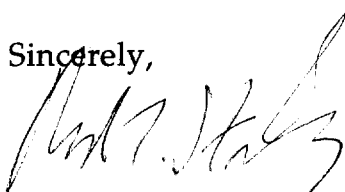
RE: Ex Parte File, CC Docket No. 95-116
Local Number Portability

Dear Sir:

Pursuant to the Commission's rules, please be advised that on March 13, 1996, Susan Briner, Ron Schwartz, and the undersigned all of Northern Telecom (Nortel) met with Don Gips, Elliot Maxwell, Jason Karp, Mindy Littel, Larry Atlas, and Jay Markley of the Commission's staff. The purpose of the meeting was to discuss local number portability, the subject of the referenced proceeding. Nortel representatives presented the information and recommendations contained in the attached presentation charts, and answered questions posed by Commission staff based on the presentation. Copies of the presentation were provided to the Commission staff who attended the meeting.

Please contact the undersigned if you have any questions.

Sincerely,



Raymond L. Strassburger
Director, Government Relations - Telecommunications Policy

RLS/gj
Attachment

cc: FCC Staff w/o attachment:
Don Gips
Elliot Maxwell
Jason Karp
Mindy Littel
Jay Markley
Larry Atlas

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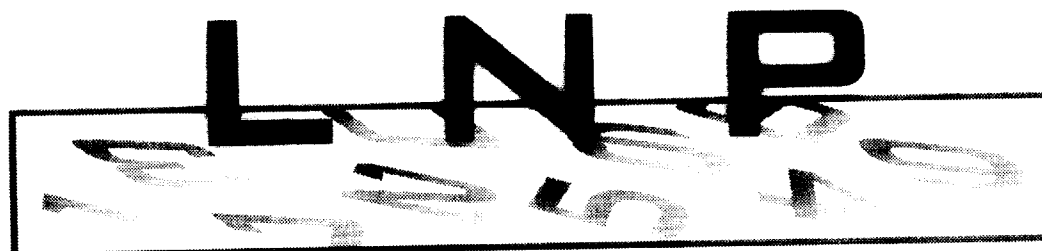
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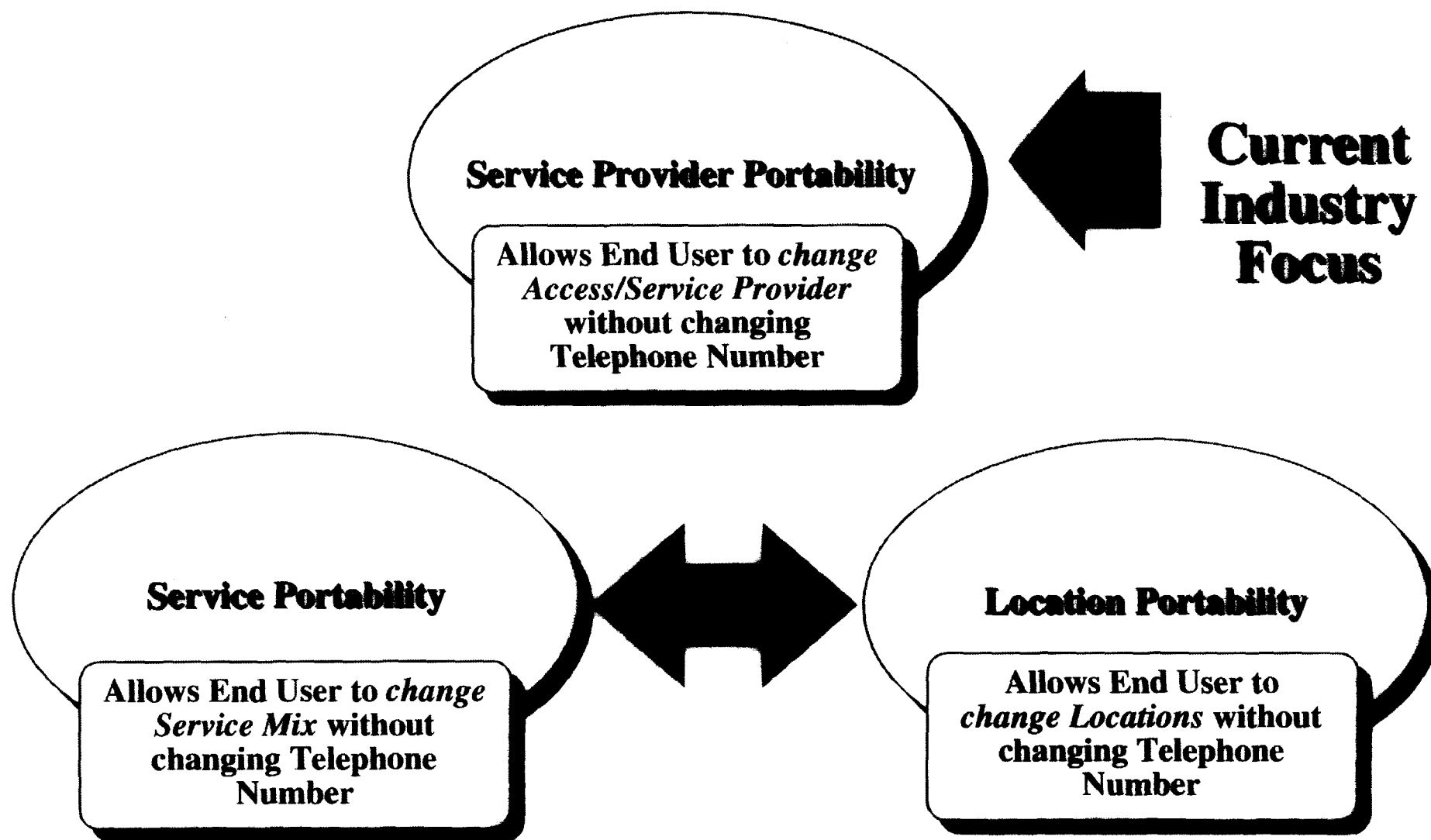
LOCAL NUMBER
PORTABILITY

Discussion on C.C. Docket 95-116
March 13, 1996

Local Number Portability

- **Nortel's role & industry activities**
- **LNP architecture alternatives**
- **Nortel's product plans**
- **Industry issues to be resolved**

What is LNP?



Nortel's Role

- **Nortel's role is to support all of our customers in developing and implementing effective solutions for LNP**
 - incumbents
 - new entrants
 - inter-exchange
 - wireless

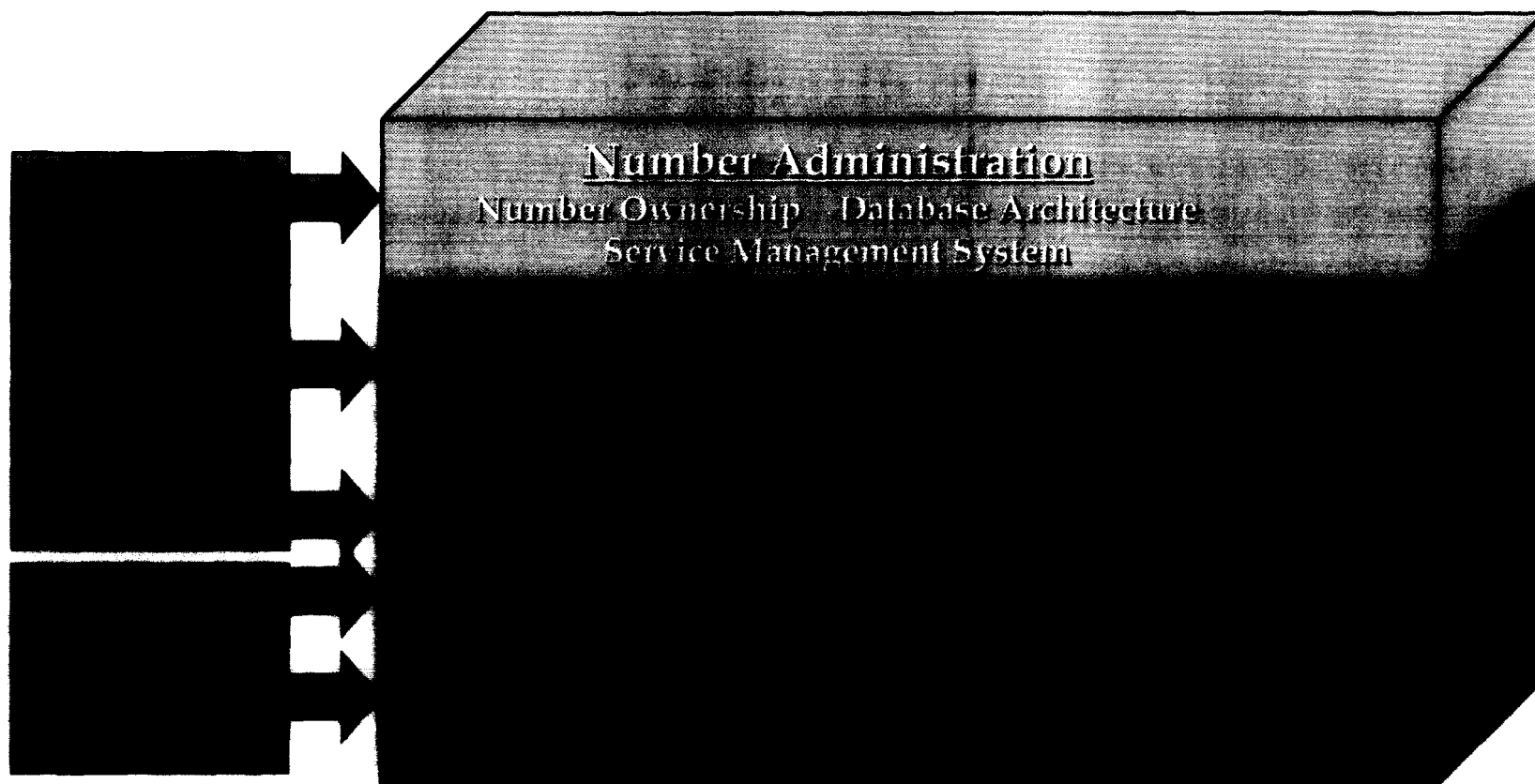
Nortel Industry Activities

- **Proposed a variety of technical solutions to LNP**
 - worked closely with our customers and regulatory task forces
 - **Nortel supports convergence on LRN as the long-term LNP routing method**
 - LRN roll out committed on Nortel products to support 1997 roll out
 - **Nortel proposed Query on Release triggering algorithm for cost-containment applications**
 - **Active participation in industry forums**
 - INC, ICCF, T1S1
 - Regulatory Task Forces: Illinois, Georgia, Maryland, California, Canada, etc...
-

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LNP Model



Triggering and Routing algorithms can be selected separately to allow cost-effective implementation by each service provider

Routing Algorithm

- **Used to uniquely identify where to route calls to ported numbers**
 - Can no longer rely on the NPA-NXX in the dialed number uniquely identifying a service provider/location
- **Three options under consideration:**
 - Location Routing Number (LRN)
 - » Gaining momentum within the industry as the standard routing algorithm
 - Carrier Portability Code (CPC)
 - » Proposed as an interim solution by MCI
 - Name & Address (N&A)
 - » Losing favor in the industry due to impacts on OAM&P

Location Routing Number (LRN)



- **Location Routing Number (LRN):**
 - Uniquely identifies a single end office (in North America)
- **Proposed format for the LRN**
 - New ISUP format to include:
 - » 10 digits LRN as switch identifier in CalledPartyNumber
 - » Original dialed DN in GAP
 - » Use of query--done bit in the Forward Call Indicators to indicate database dip has been done
 - Assign existing NPA-NXX to LRN for existing switches
 - Assign unused NPA-NXX to LRN for new switches

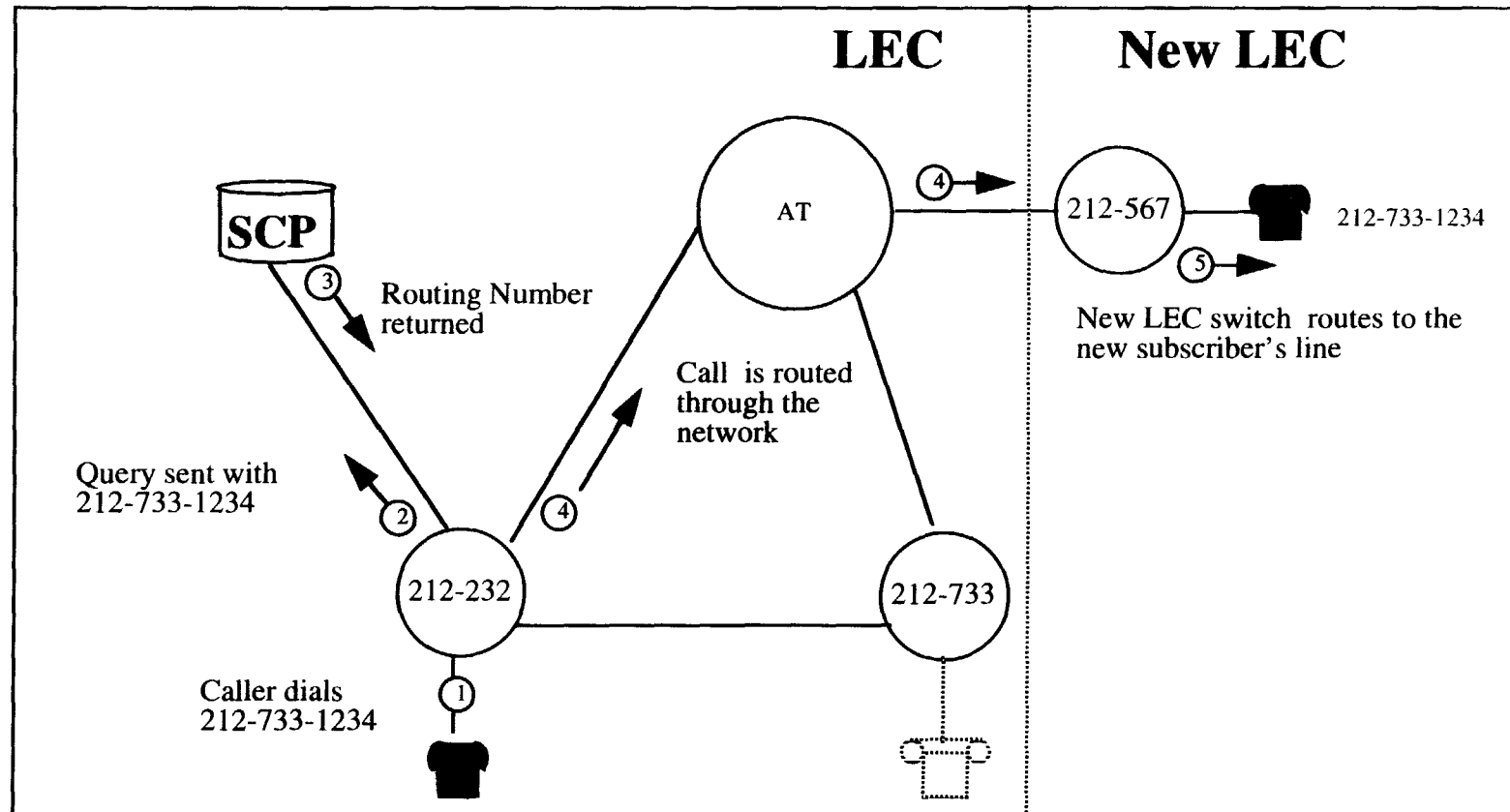
Why a Single Routing Standard is Needed

- **Minimize costs of deploying multiple solutions in different regions**
 - **Avoid interconnection problems as location LNP expands in geographic scope**
 - **Avoid interconnection problems for carriers who must serve multiple regions (e.g. IXC)**
 - **Reduce time to deploy LNP**
-

Triggering Algorithm

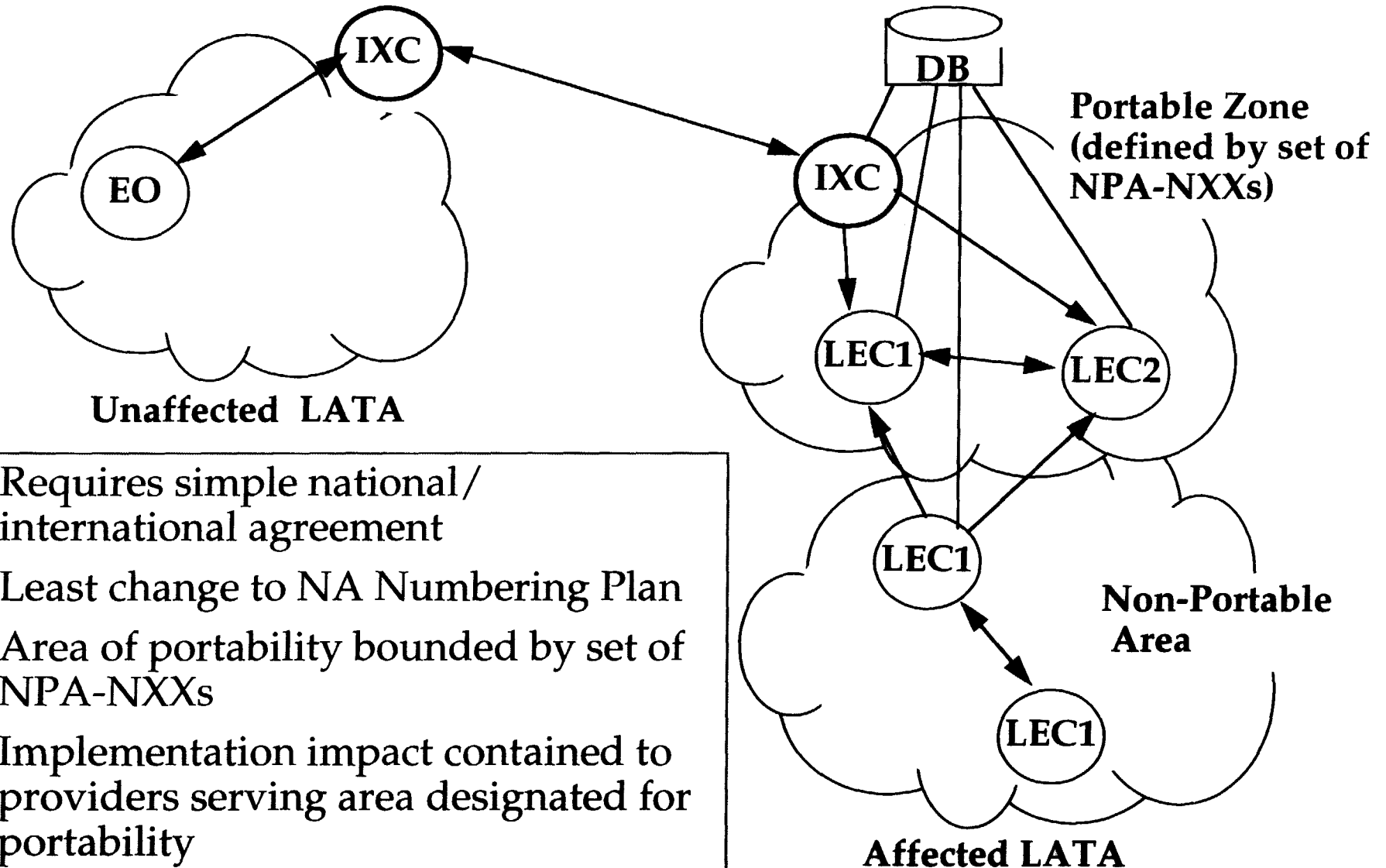
- **Defines when, and where, to query for routing data**
- **Option of which service provider's network should do the query:**
 - **Originating**
 - » Calling party's service provider
 - **N-1**
 - » Next to last service provider (e.g. Interexchange Carrier)
 - » Would be originating network if only 2 networks are involved
 - » **Favored by the industry as the optimum method**
 - **Terminating**
 - » Called party's original service provider (i.e. donor network)
- **Within a service provider's network, there exist algorithms to minimize the number of SCP queries**
 - **cost containment**

Originating



- Originating office queries the SCP on all calls to numbers within a zone of portability to find out where to route the call

LNP N-1 Architecture



Triggering Mechanisms

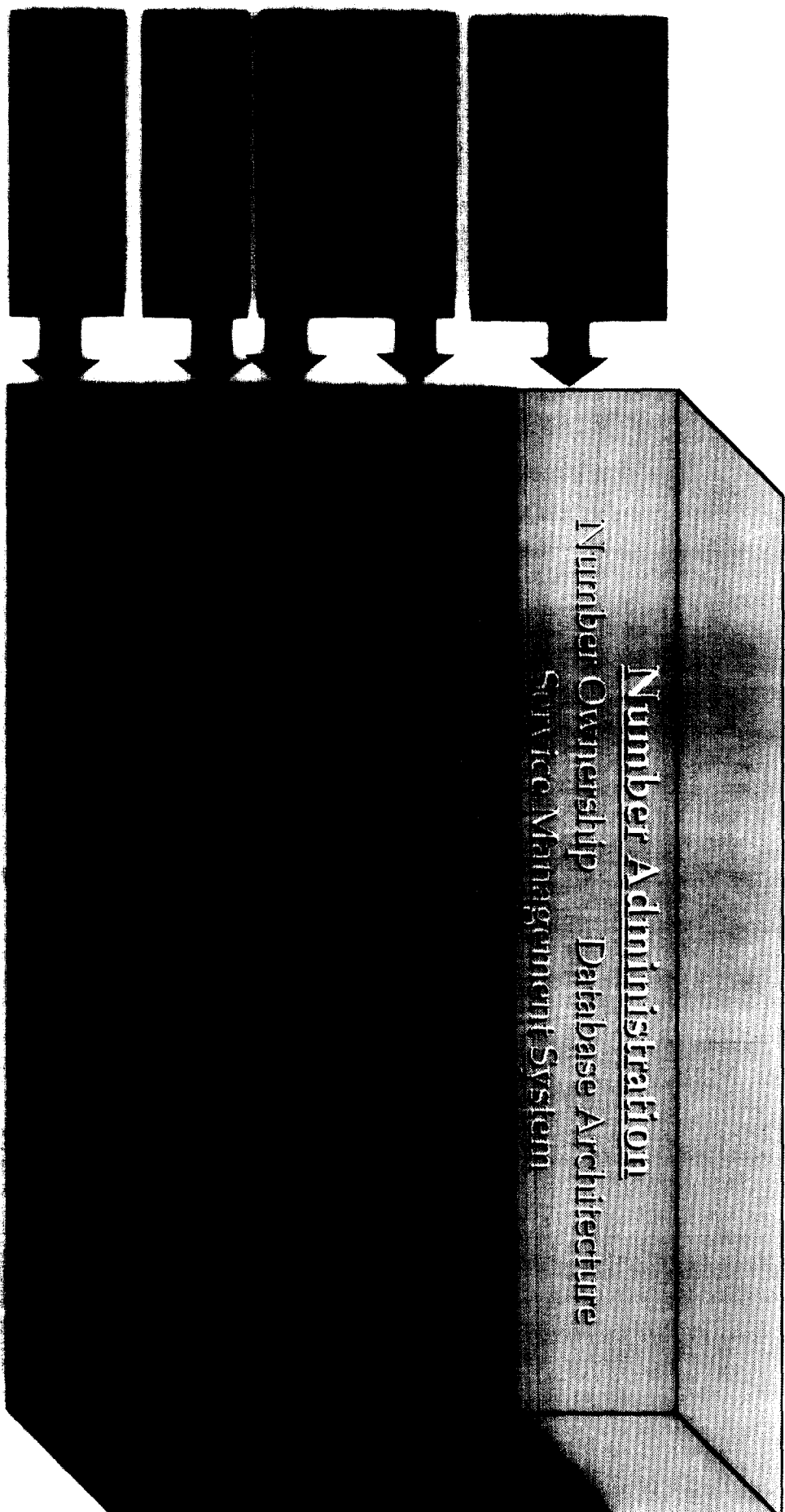
- **Protocols used to query the SCP**
 - AIN Technology
 - » Service Specific LNP Trigger
 - » Service Independent Office Code Trigger (OCT)
 - IN based variations of TR-533 (used for 800 number queries)
 - Other mechanisms, including proprietary protocols, may be used

Multiple trigger mechanisms can co-exist in the network, allowing each service provider to choose the mechanism best suited to their circumstances

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L N P

LNP Architecture Convergence



LNP Implementation Issues

- **Service Provider number portability**
 - cost recovery: inter-carrier settlements and consumer impacts
 - operations, administration, maintenance & provisioning (OAM&P)
 - process for updating requirements
 - whether to perform 10-digit Global Title Translations at the STP or SCP
 - whether to allow query reduction methods
- **Extension of LNP into new areas**
 - wireless service provider inclusion
 - geographic number portability

***The Illinois LNP Task Force is representative of
the current state of the industry***

LNP Convergence Issues

- **Many states are conducting their own LNP proceedings, and the number is growing**
 - difficult for everyone, even the largest players, to participate everywhere
 - **T1S1, INC, and other industry bodies are also investigating technical aspects of LNP**
 - some overlapping agendas among themselves and with states
 - **There is a risk that national convergence will not happen, resulting in increased costs and delays**
 - while there is growing consensus on LRN as the "routing" mechanism, differences abound in other areas
-

State Scorecard

State	LNP Decision	Begin Rollout
Illinois	LRN as long term sol'n	2Q97
Maryland	LRN as long term sol'n	2Q97
Georgia	LRN as long term sol'n	2Q97
California	Decision imminent	TBD
New York	Trialing CPC LRN as long term sol'n	Trial began 1Q96
Washington	Trialed LANP Long term decision TBD	Trial ran 2Q to 3Q95

- *Other states poised to begin LNP activities include:
Colorado, Florida, Wisconsin, Ohio, Michigan*
- *AIN /LRN Emerging as Industry Consensus Solution*

Local Number Portability

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DMS 10/100/200 Product Plans

- Support AIN LRN LNP functionality in 2Q97
- Offer 'Query on Release' on the DMS-100 in 2Q97 as an option to reduce startup infrastructure costs
- Support NY CPC trial on the DMS-100

Product availability hinges on achieving industry consensus and customer commitments by 2Q96

Directory & Operator Services

- Availability is targeted for 3Q97 on TOPS product
 - Call Routing and Call Completion issues faced by the rest of the network, plus:
 - LIDB Impact
 - Directory Assistance Data Base Impact
 - » Will new entrants each have a DA DB and if so will there be reciprocity?
 - Signalling Impact
 - Busy Line Verification (BLV) Impact
 - » How will BLV work in an LNP world?
 - Real Time Rating Impact
 - Nortel is playing a leading role within state forums in identifying unique Operator Services LNP issues
-

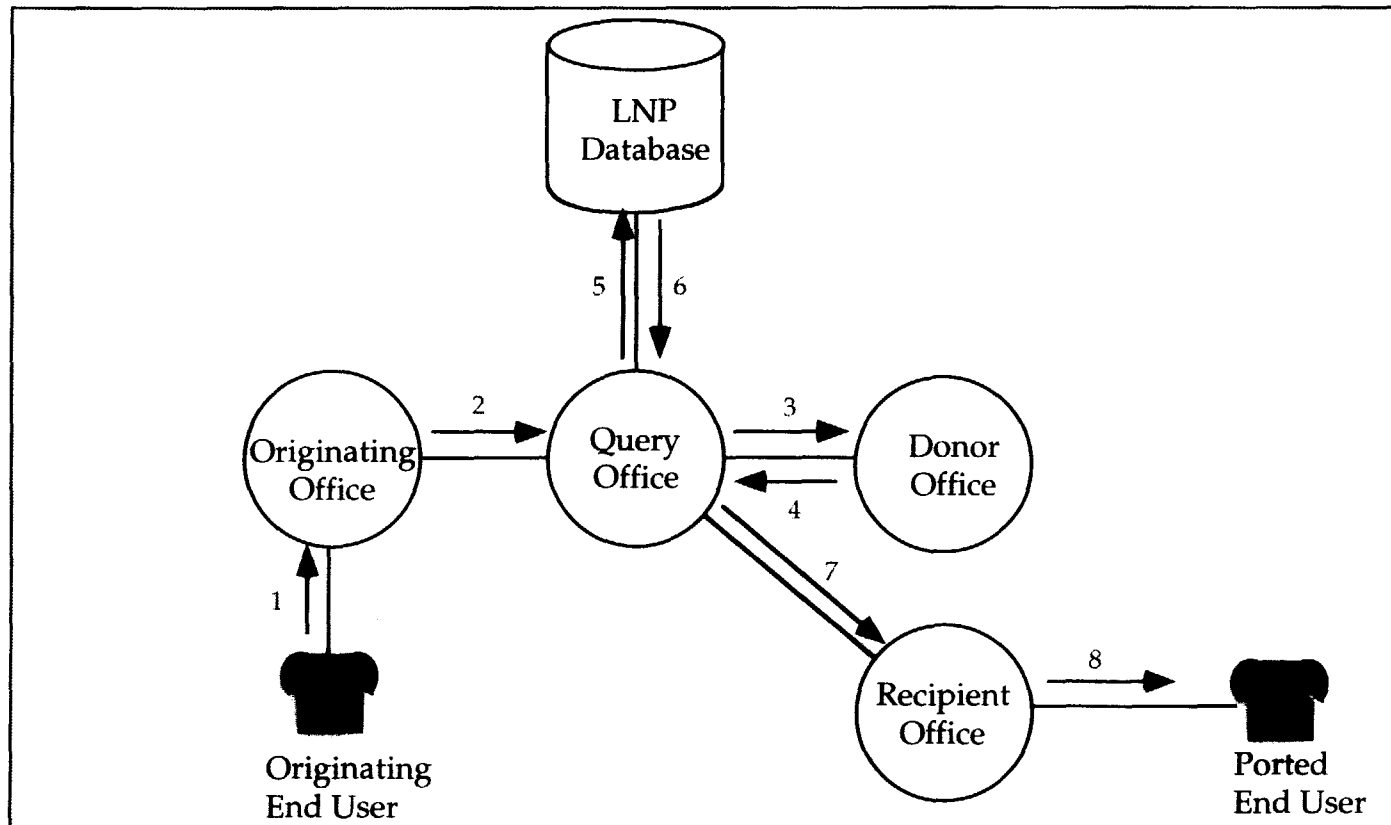
Local Number Portability

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 - **Query Reduction**
 - **Wireless**
 - **Number administration**

Query Reduction Mechanisms

- **Contains LNP costs, especially for I-LECs**
 - Query on Release (QoR), Release To Pivot (RTP)
 - Telecom Act tries to avoid “economically unreasonable” solutions
 - **Query reduction methods tend to cause some call-handling inequities**
 - only ported calls undergo SCP queries
 - additional call delay if call first goes to the donor switch
 - **There is a trade-off between equity and cost**
 - **Illinois specs do not provide for query reduction**
 - **Query reduction being discussed in California and Maryland, but no final decisions at this time**
-

Query on Release (aka Look Ahead)



- Originating office looks forward to the intended terminating (donor) office to see whether called number still exists at that location
- If number has been ported, appropriate SS7 release cause message is returned, and query is then launched. Call is routed to the recipient office
- Originating office can also be the query office